A.D. 1866, 3rd July. N° 1763.

SPECIFICATION

OF

GEORGE ROBERT SHERATON.

SURGICAL INSTRUMENT.

LONDON:
PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:
PUBLISHED AT THE GREAT SEAL PATENT OFFICE,
25, SOUTHAMPTON BUILDINGS, HOLBORN.
1867.

Price [illegible]

A.D. 1866, *3rd July.* N° 1763.

Surgical Instrument.

LETTERS PATENT to George Robert Sheraton, of Sedgefield, in the County of Durham, for the Invention of "A NEW OR IMPROVED INSTRUMENT TO BE USED IN CASES OF DIFFICULT PARTURITION."

Sealed the 28th December 1866, in pursuance of an Order of the Lord Chancellor, and dated the 3rd July 1866.

PROVISIONAL SPECIFICATION left by the said George Robert Sheraton at the Office of the Commissioners of Patents, with his Petition, on the 3rd July 1866.

I, GEORGE ROBERT SHERATON, of Sedgefield, in the County of Durham, do hereby declare the nature of the said Invention for "A NEW OR IMPROVED INSTRUMENT TO BE USED IN CASES OF DIFFICULT PARTURITION," to be as follows:—

This Invention consists (as represented in Fig. 1) of two blades of flexible steel curved in a somewhat sigmoid form. These blades are united at one extremity by a moveable linked joint, and at their other extremities are fitted into the rotary bars, which allows each blade to rotate in opposite directions to the extent of 90°, forming a hoop as, B, Fig. 1, or to be placed parallel to each other, as A, Fig. 1. The power of rotation is obtained by pressing upon the transverse bars or "lugs" of the rotary bars, as D, Fig. 1, which rotates upon the handle by which the requisite angle is obtained. The degree of rotation is limited by stops or pins E, Fig. 1, in the handle, and by the form of the linked joint *c* and rotary bar. The handle is flattened on one side to enable the operator to determine with accuracy the degree of angle obtained, and its relative position with respect to the fœtal head and maternal passages as in F ("in Fig. 1").

The blades, Fig. 2, *a* consists of two strips of rolled, drawn, or hammered steel of from 9 to 12 inches in length, of about $\frac{7}{16}$ths inch in width, and of from No. 17 to No. 22 (wire guage) in thickness. At one extremity the two blades are connected with the linked joint (*c*) by being rounded at their extremities, and perforated with a hole (c^o) of $\frac{1}{8}$th inch diameter, corresponding with two holes of the same size in the link through which two pins are fitted and rivetted. The lower extremity of each blade fit into a slit in the rotary bar (*d*), where they are fixed by two small pins passing through each of them. Each blade is curved in a sigmoid form *a* (Fig. 1), the amount of curvature forming an ellipse, having a short diameter of about 5 or 6 inches. The blades are tempered so as to be flexible, elastic, and tenaceous in the highest degree. The blades may be electroplated with silver or gold, or covered with gutta percha, caoutchouc, or other substance if thought desirable. The linked joint *c* (Fig. 2) forms the point of the instrument when the blades are parallel, and connects the two blades as to form a hoop when open. It consists of a piece of steel $\frac{7}{8}$th inch in width, $\frac{5}{8}$th inch in length, and $\frac{3}{32}$nds inch in thickness, and this thickness is split to $\frac{7}{16}$ths inch of its length to admit the two blades of the instrument, the remaining $\frac{3}{16}$ths which forms the point being solid, and which also serves the purpose of a stop by limiting the extent of rotation of each blade to 90°. Two holes c^o (Fig. 2) $\frac{1}{8}$th inch diameter slightly countersunk to admit the rivets which connect the link with the blades. The anterior or solid portion is rounded, forming the arc of a circle of 1½ inches diameter, and the posterior portion is rounded by two circles drawn from the rivet holes. The rotary bars *d* (Fig. 2) are two bars of steel or iron of irregular form, into which the lower extremities of the blades are fixed. It passes through the handle upon which it rotates, and is retained in its position by nuts being screwed upon the ends. The portion into which the blades are fixed are $\frac{7}{16}$ths inch in width and $\frac{1}{4}$ inch in thickness, with the edges bevelled off, and split for about $\frac{3}{4}$ inch of their length, into which the lower ends of the blades are fitted and fixed by two small pins passing through each of them, as d^1 (Fig. 2). Immediately below this for $\frac{5}{16}$ths of its length (d^2) it is $\frac{3}{8}$th inch diameter, and rounded on three-fourths of its circumference, and left square on the remaining one-fourth, which is the posterior or outer part; this allows them to rotate till the two square surfaces come in contact, thus limiting the degree of rotation. A transverse bar or "lug" (d^2) about $\frac{7}{8}$th inch in length, $\frac{1}{4}$ inch broad on its upper surface, and reduced to $\frac{1}{16}$th inch on its under surface, projects from the outer side of each of the rotary bars for the purpose of opening the blades on application, and by which the force is applied in extraction by the fingers being laid across them. A bar (d^3) 3 inches in length, $\frac{3}{16}$th inch diameter, which passes through the handle upon their lower ends, is cut to allow nuts to be screwed upon them for the purpose of retaining them in their position at (d^4) (Fig. 2). The nuts e (Fig. 2) are two in number, and are screwed upon the ends of the rotary bars; they are of conical form so to fit into the end of the handle, which is countersunk to receive them; they are notched at the end transversely for the key to fix or remove them (e^2, Fig. 2). The handle f (Fig. 2) consists of two parts; f^1 (Fig. 2) is of steel, iron, or brass, and consists of a longitudinal piece about 3 inches in length, $\frac{3}{4}$ in breadth, and $\frac{1}{8}$th inch in thickness, and of two ends or transverse portions; also $\frac{1}{8}$th inch in thickness, $\frac{3}{4}$ inch broad in its antero-posterior diameter, and about one inch in their transverse diameter. Each end is perforated with two holes $\frac{1}{8}$th inch diameter, through which the lower portion of the rotary bars pass, the holes in the lower end f^3 (Fig. 2) being countersunk to admit the nuts which are screwed upon the ends of the bars. The portion marked (f^2, Fig. 2) is of ebony or other hard wood, ivory, or bone, so shaped as to fit and fill up the space in the iron portion f^1 (Fig. 2) of the handle, and retained there with pins passing through and rivetted; it is rounded on its anterior two-thirds, the posterior third being flattened, thus forming the handle about 3 inches in length, $\frac{3}{4}$ inch its antero-posterior diameter, and 1 inch in its transverse diameter and 1 inch in its transverse diameter (as in Fig. 2, f^4).

It is not necessary that the above measurements should be strictly adhered to, but is the size that the instrument is intended to be made. The instrument may be made with a folding joint (as in Fig. 3, A, B,) to render it more portable.

SPECIFICATION filed in pursuance of the conditions of the Letters Patent, and of an Order of the Lord Chancellor, by the said George Robert Sheraton in the Great Seal Patent Office on the 18th January 1867.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, George Robert Sheraton, of Sedgefield, in the County of Durham, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Third day of July, in the year of our Lord One thousand eight hundred and sixty-six, in the thirtieth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said George Robert Sheraton, Her special licence that I, the said George Robert Sheraton, my executors, administrators, and assigns, or such others as I, the said George Robert Sheraton, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "An Improved Instrument to be used in Cases of Difficult Parturition," upon the condition (amongst others) that I, the said George Robert Sheraton, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said George Robert Sheraton, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My Invention consists, as represented in Drawings, of two blades of steel curved in a somewhat sigmoid form. These blades are united at one extremity by a moveable linked joint, and at their other extremities are fitted into the rotary bars, which allows each blade to rotate in opposite directions to the extent of 90°, forming a hoop, as B, or to be placed parallel to each other, as A. The power of rotation is obtained by pressing upon the transverse bars or "lugs" of the rotary bars, as D, which rotates upon the handle, by which the requisite angle is obtained. The degree of rotation is limited by stops or pins E in the handle, and by the form of the linked joint C. The handle is flattened on one side to enable the operator to determine with accuracy the degree of angle obtained and its relative position with respect to the fœtal head and maternal passages, as in F. The blades A, B, consists of two strips of rolled, drawn, or hammered steel of from 8 to 12 inches in length, of about $\frac{7}{16}$ths inch in width, and of from No. 17 to No. 22 (wire guage) in thickness. At one extremity the two blades are connected with the linked joint (C) by being rounded at their extremities and perforated with a hole (C*a*) of $\frac{1}{8}$th inch diameter corresponding with two holes of the same size in the link, through which two pins are fitted and rivetted. The lower extremity of each blade fits into a slit in the rotary bar (G), where they are fixed by two small pins passing through each of them. Each blade is curved in a sigmoid form (A & B) the amount of curvature forming an ellipse, having a short diameter of from 3 to $4\frac{1}{4}$ inch, and a long diameter of about 5 or 6 inch. The blades are tempered so as to be flexible, elastic, and tenacious in the highest degree, or as in A*a* and B*b*, and the blades may be of $\frac{1}{16}$th inch in thickness, gradually increasing downwards to about $\frac{1}{4}$ inch, or $\frac{3}{8}$th inch, and of about 1 or $1\frac{1}{4}$ inch width at the upper part, decreasing downwards to about $\frac{1}{4}$ inch, the edges being rounded off; they may be fenestrated, as I, to render them lighter. The upper part or point of the blades are to be rounded off, as H, and the blades are rigid, and therefore do not require to be connected at the upper part with the linked joint, and the blade and rotary bar may be forged in one piece. The linked joint (C) forms the point of the instrument when the blades are parallel, and connects the two blades as to form a hoop when open; it consists of a piece of steel $\frac{7}{8}$ths inch in width, $\frac{5}{8}$ths inch in length, and $\frac{3}{32}$nds inch in thickness, and this thickness is split to $\frac{7}{16}$ths inch of its length to admit the two blades of the instrument, the remaining $\frac{3}{16}$ths, which forms the point, being solid, and which also serves the purpose of a stop by limiting the extent of rotation of each blade to 90°. Two holes (C *a*), $\frac{1}{8}$th inch diameter, slightly countersunk to admit the rivets which connects the link with the blades. The anterior or solid portion is rounded, forming the arc of a circle of $1\frac{1}{2}$ inch diameter, and the posterior portion is rounded by two circles drawn from the rivet holes; or this linked joint may be dispensed with, as in A*a*, and B*b*. The rotary bars (G and D) are two bars of steel or iron, brass or other metal of irregular form, into which the lower extremities of the blades are fixed. It passes through the handle, upon which it rotates, and is retained in its position by nuts being screwed upon the ends. The portions into which the blades are fixed are $\frac{7}{16}$ths inch in width and $\frac{1}{4}$ inch in thickness, with the edges bevelled off and split for about $\frac{3}{4}$ inch of their length, into which the lower ends of the blades are fitted and fixed by two small pins passing through each, as G. The degree of rotation is limited by pins or stops upon the upper end of the handle, limiting the degree of rotation to 90°, as E. A transverse bar or lug D about $\frac{7}{8}$ths inch in length, $\frac{1}{4}$ inch broad on its upper surface and reduced to $\frac{1}{16}$th inch on its under surface projects from the outer side of each of the rotary bars for the purpose of opening the blades on application, and by which the force is applied in extraction by the fingers being laid across them. Bar K 3 or 4 inches in length, $\frac{3}{16}$ths to $\frac{1}{4}$ inch diameter, which passes through the handle upon their lower ends a thread is cut to allow nuts to be screwed upon them for the purpose of retaining them in their position, at L. The nuts M are two in number, and are screwed upon the ends of the rotary bars; they are of conical form so as to fit into the end of the handle, which is countersunk to receive them; they are notched at the end transversely for the key to fix or remove them, or the bars may be retained in the handle by pins passing through them. The handle N consists of two parts; O is of steel, iron, brass, or other metal, and consists of a longitudinal piece or about 3 or 4 inches in length, $\frac{3}{4}$ to 1 inch in breadth, and $\frac{1}{8}$th inch in thickness, and of two ends or transverse portions also $\frac{1}{8}$th inch in thickness, $\frac{3}{4}$ inch broad antero-posteriorly, and about 1 to $1\frac{1}{4}$ inch in their transverse diameter; each end is perforated with two holes $\frac{1}{8}$th to $\frac{1}{4}$ inch diameter, through which the lower portion of the rotary bars pass, the holes in the lower end being countersunk to admit the nuts which are screwed upon the ends of the bars. The portion marked P is of ebony or other hard wood, ivory, or bone, so shaped as to fit and fill up the space in the iron portion O of the handle, and retained there with pins passing through and rivetted. It is rounded on its anterior two-thirds, the posterior third being flattened, thus forming the handle about 3 or 4 inches in length, $\frac{3}{4}$ or 1 inch in its antero-posterior diameter (that is, from before backwards), and 1 or $1\frac{1}{4}$ inch in its transverse diameter, as in N. Or the handle may be made of two lateral halves by being divided longitudinally and connected with a hinged joint which permits them to be separated at will to increase the transverse diameter of the ellipse formed by the blades, as in Q. A screw R may be made to pass through the handle to limit the amount of separation of the two halves of the handle by the screw having a pitch of about one complete turn in every $\frac{1}{4}$ to $\frac{3}{4}$ inch with a cog nut which readily runs upon it, but which may be arrested as required by a detent with spring. A key T may be used where great pressure is needed to act upon the screw. A toothed rack S upon a spring passes through the handle having the teeth cut saw-shaped as to permit the two halves of the handle being closed, but prevents their separation, thus acting as a detent. The metallic portions of the instrument may be electro-plated with silver, gold, or the blades covered with caoutchouc or other substance if thought necessary.

It is not necessary that the above measurements be strictly adhered to, but is the size that it is intended to be made.

In witness whereof, I, the said George Robert Sheraton, have hereunto set my hand and seal, this Fifteenth day of January, in the year of our Lord One thousand eight hundred and sixty-seven.

GEORGE ROBERT SHERATON. (L.S.)

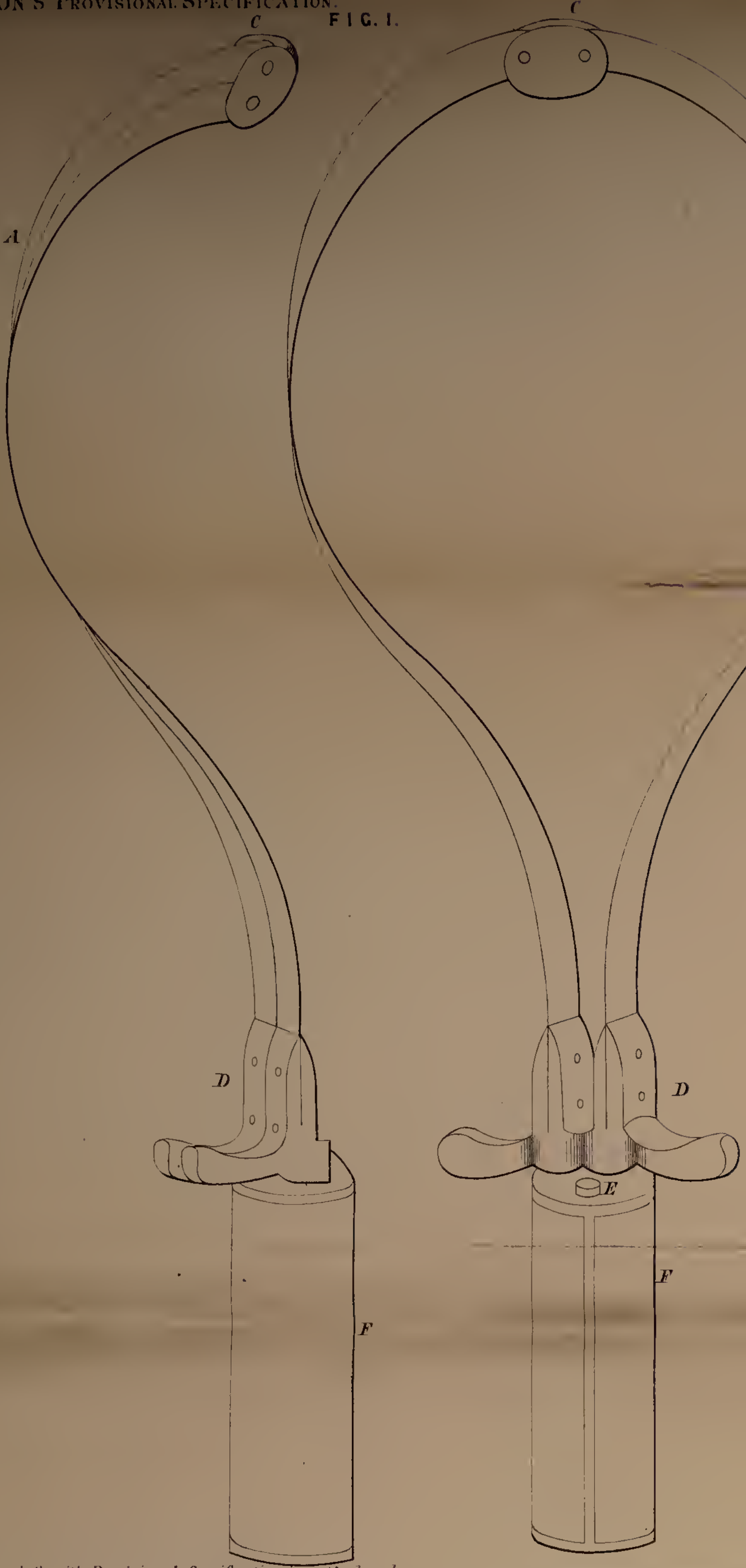
LONDON:
Printed by George Edward Eyre and William Spottiswoode,
Printers to the Queen's most Excellent Majesty. 1867.

SHEET 1.

(3 SHEETS.)

A.D. 1866. July 3. Nº 1763.
SHERATON'S Provisional Specification.

FIG. 1.



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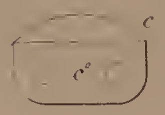
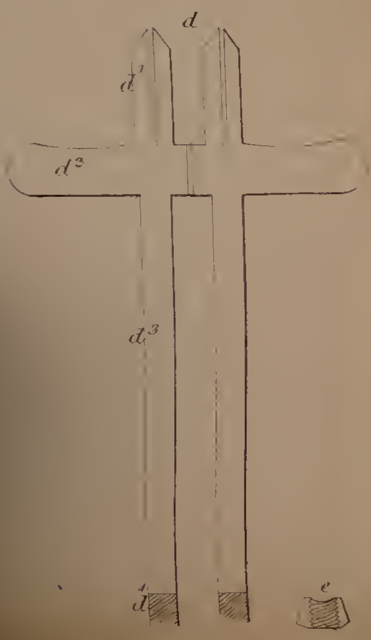
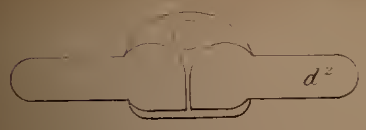
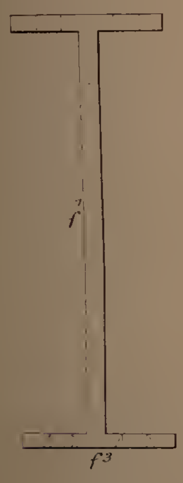
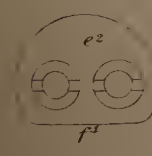










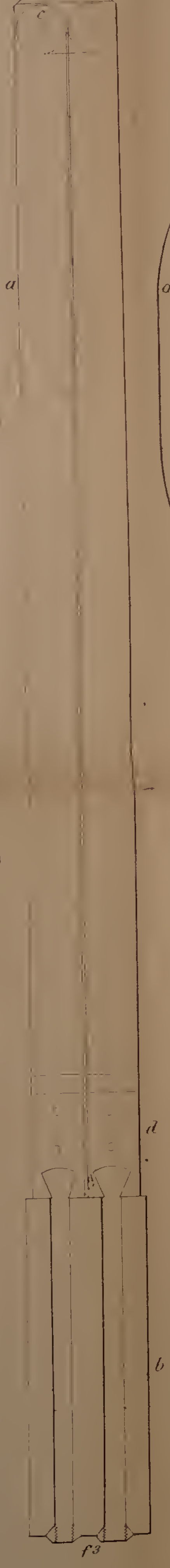
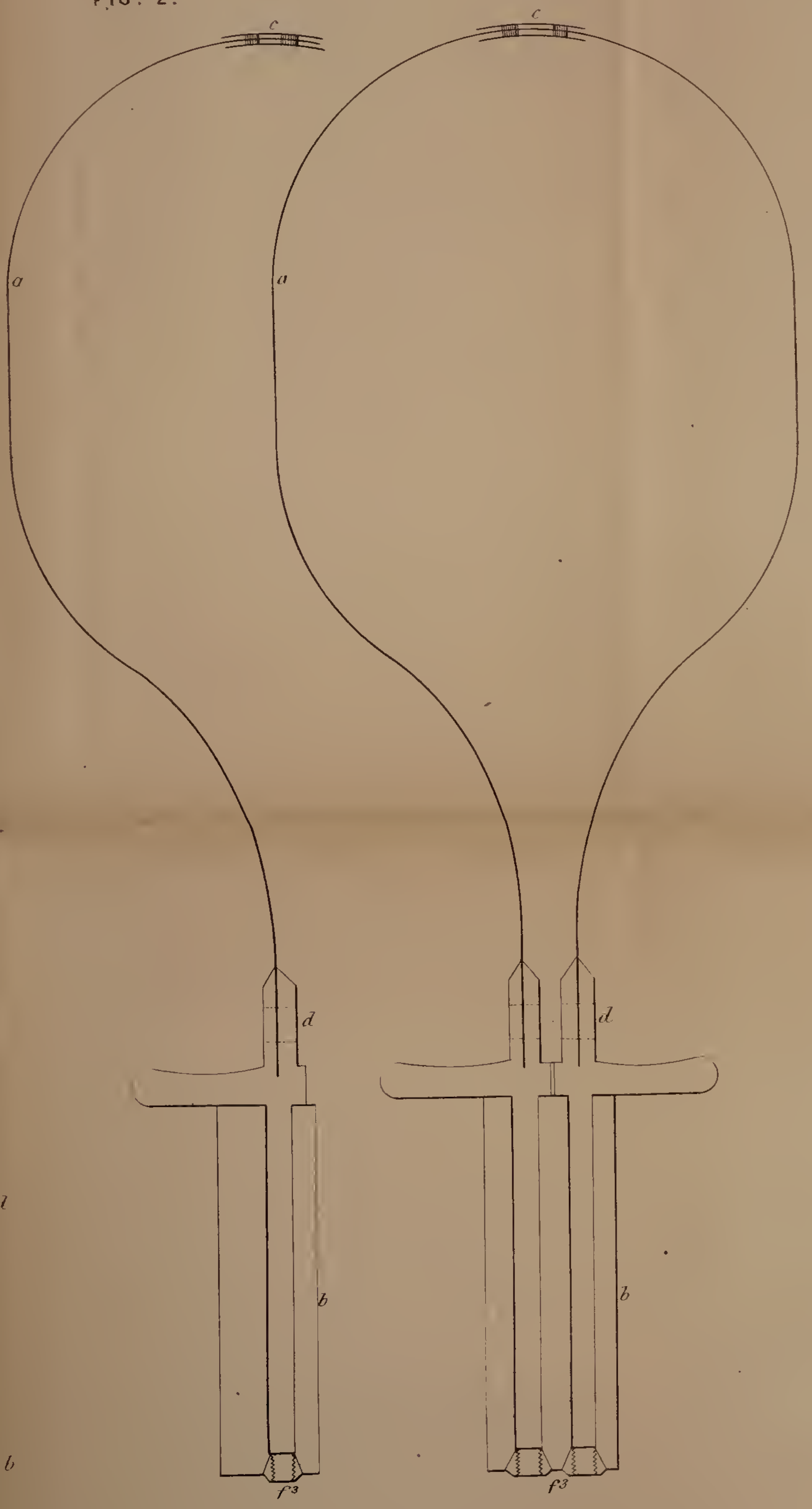
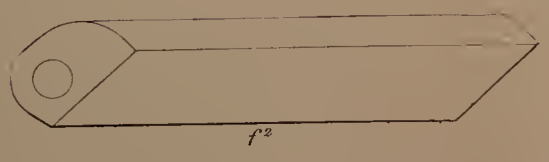


FIG. 2.





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(3 SHEETS)

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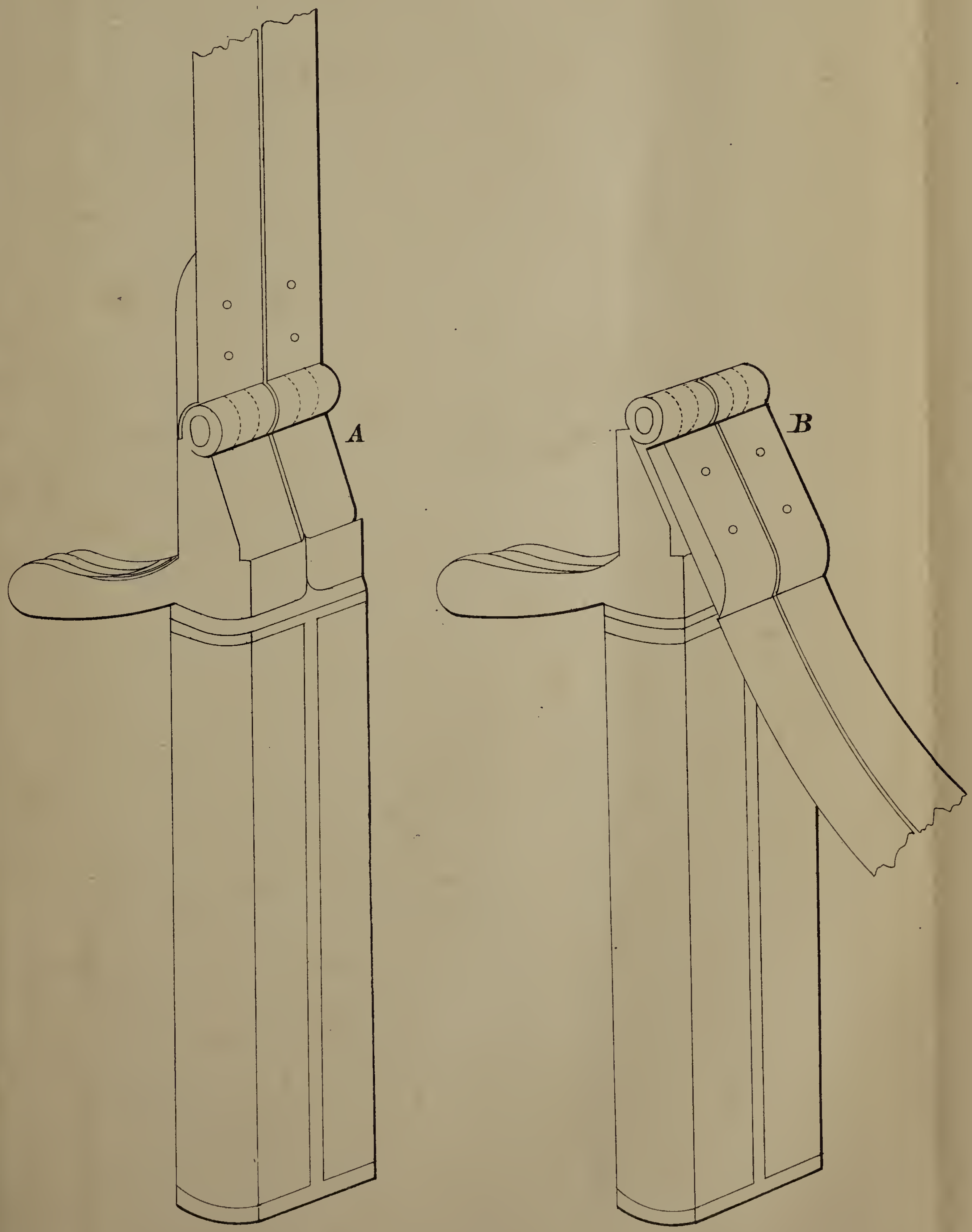
SHERATON'S PROVISIONAL SPECIFICATION.

FIG. 3.



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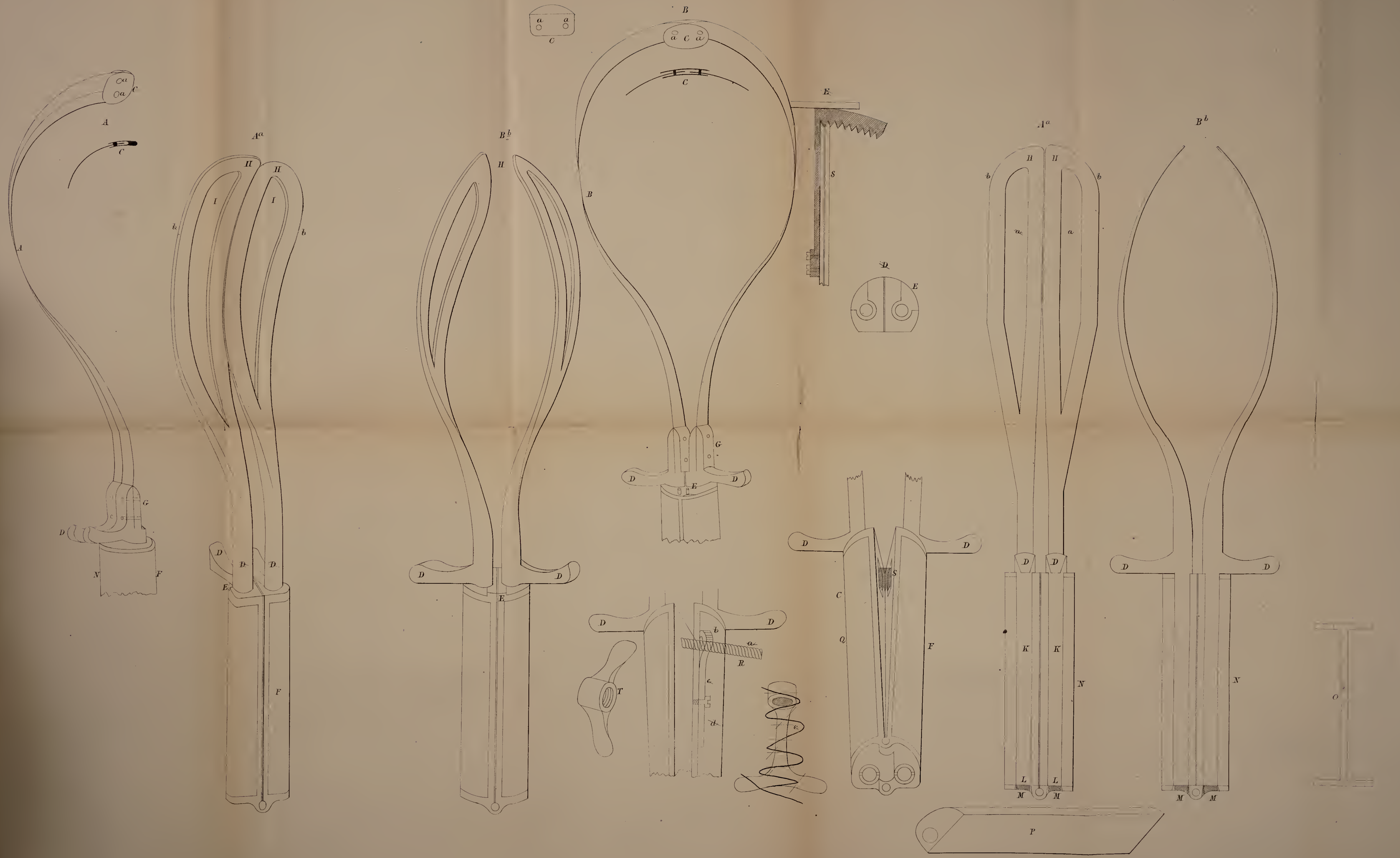

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